U. S. Department of Energy

Thomas Jefferson National Accelerator Facility

600
Progress Status

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This chapter of the Project Control System Manual explains how the performance status is determined during the implementation of the project plan. On a monthly basis, actual project work, schedule and cost data are collected and then compared to the Performance Measurement Baseline using an earned value methodology. Ensuring the collected data are valid and accurate is crucial to producing credible progress status reports. This knowledge of the project status aids all levels of project management in taking proper corrective action when deviations to the project plan surface.

601 Earned Value Management Indicators

There are three basic sets of indicators in an Earned Value Management System. It is through these metrics that a project's current schedule and cost status can be established and a final completion date and cost for the project can be estimated. Data for these indicators are normally measured in dollars ($).

601.1 Planned Value

The first data set generated by a project is the Budgeted Cost of Work Scheduled (BCWS) or Planned Value. Planned Value is that segment of the total cost estimate planned to be spent on a project activity. This data set is derived from the Performance Measurement Baseline established during the project's planning phase where the work scope is scheduled and budget levels are assigned to the scheduled work. It is calculated cumulative to date by summing the budgeted value of work packages planned to be accomplished from the start of the project to the end of the accounting period.

601.2 Earned Value

A. Data for Budgeted Cost of Work Performed (BCWP) or Earned Value are collected during project execution by measuring the progress of the Cost Account work packages. When measuring Earned Value for a project, there are many methods available to assess the status of each Cost Account activity. Projects at Jefferson Lab normally make use of two of these methods:

1. Percent Complete: At the end of each status period, the Cost Account Managers assess the progress of each activity in their Cost Accounts and provide a percentage of the work in that activity that has been completed. Almost all of a project's work activities will use this primary method of determining Earned Value. To the maximum extent possible, objective measurements such as number of drawings completed and number of lines of codes written versus the budgeted value are used to calculate percent

complete. If the method of determining percent complete is subjective, the activity length is restricted to no more than three months.

2. Level of Effort: A Level of Effort activity is work that does not readily lend itself to measurement of discrete accomplishment. Level of Effort is measured only in terms of resources actually consumed within a given time period. It is generally characterized by a uniform rate of activity over a specific period of time and thus Earned Value is always equal to Planned Value. Earned Value for project management activities is usually determined in this manner.

B. Earned Value is the cost originally budgeted to accomplish the work packages that have been completed and can include a percent complete of work packages that are still open. Earned Value can be calculated both for the current status period and cumulative to date. When compared to Planned Value and Actual Cost, the Earned Value data provide an assessment of a project's schedule and cost performance. Without Earned Value, only planned expenditures and actual expenditures can be compared, which does not indicate how much of the planned work was actually accomplished.

601.3 Actual Costs

During project execution, costs are incurred for work accomplished. These transaction data are recorded as Actual Cost of Work Performed (ACWP) or Actual Costs. Actual Costs are determined for the current period and cumulative from the start of the project.

602 Remaining Duration

Another important data item for measuring progress on a project is remaining duration. Remaining duration is a Cost Account Manager's estimate (independent of the percent complete assessment) of the number of working days required to complete the work remaining on an activity. Remaining duration is used by the Schedule Management System in determining the project's schedule status.

603 Collection of Project Data

A. Schedule and cost data are collected each month from the Cost Account Managers and the Jefferson Lab financial system, respectively, to establish the performance of the project. OPM will issue a call for the Cost Account Managers to complete the Status Update Report (Exhibit 13). This electronic report contains a list of the Cost Account activities. Cost Account Managers annotate in the report those activities that have started with the start date;

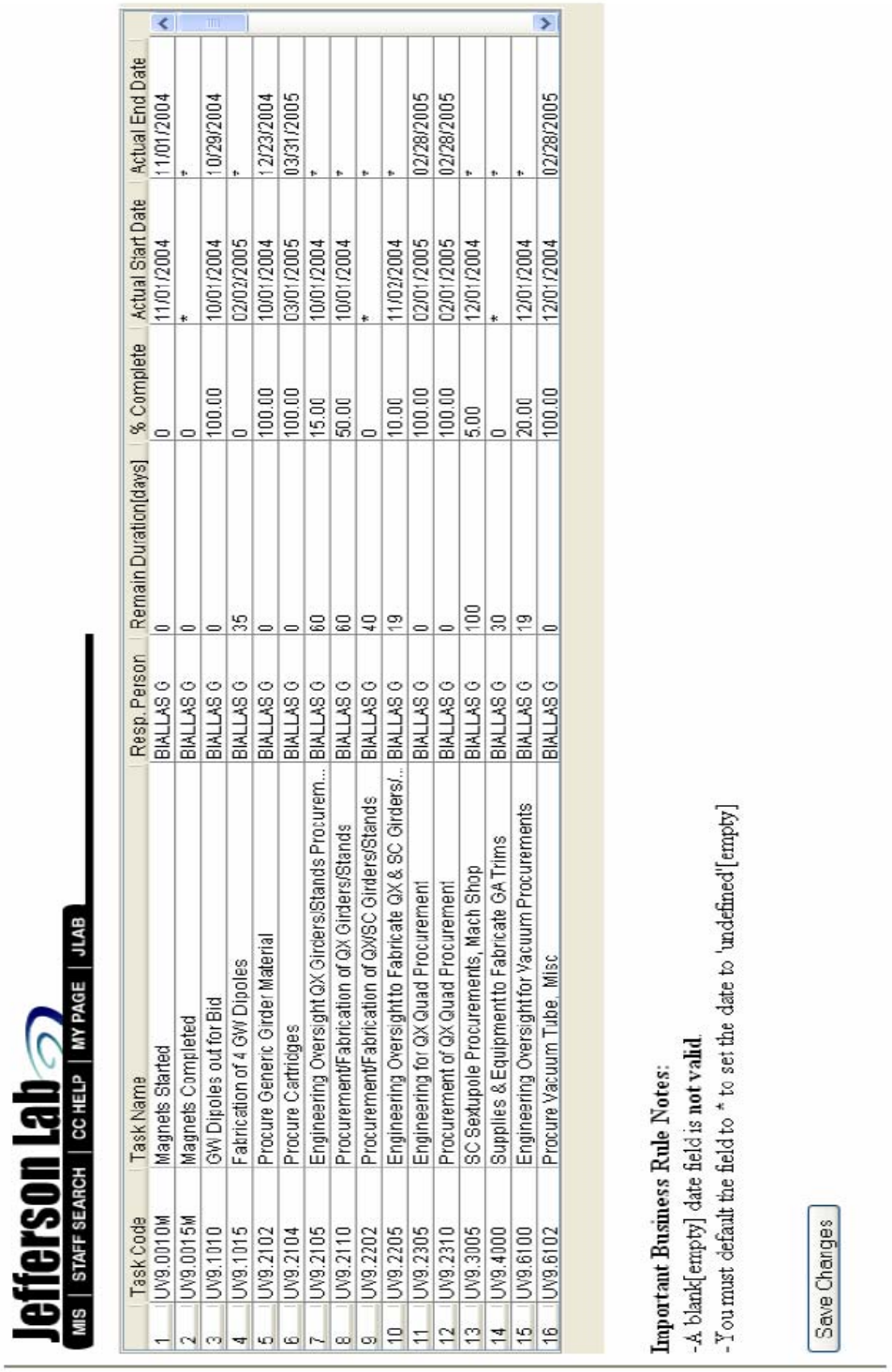
those activities that have been completed with the finish date; and those activities that are still ongoing with a percent complete (or Level of Effort) and remaining duration assessment. (Alternate status input methods compatible with the Scheduling Management System, such as "Contractor" may be used.)

B. After the Status Update Reports for all Cost Accounts are completed, OPM updates the Working Detail Schedule in the Schedule Management System and conducts a time analysis of the logic network. New early/late start and finish dates, float and the critical path are calculated. Additionally, the project's incurred costs are imported from the accounting system into the Cost Management System. With this collected project data, the OPM generates monthly reports that highlight important Earned Value Management indications of the project's schedule and cost health.

604 Exhibits

13. Status Update Report Example

Exhibit 13. Status Update Report Example



Jefferson Lab

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	Task Code	Task Name	Resp. Person	Remain Duration[days]	% Complete	Actual Start Date	Actual End Date
1	UV9.0010M	Magnets Started	BIALLAS G	0	0	11/01/2004	11/01/2004
2	UV9.0015M	Magnets Completed	BIALLAS G	0	0	*	*
3	UV9.1010	GW Dipoles out for Bid	BIALLAS G	0	100.00	10/01/2004	10/29/2004
4	UV9.1015	Fabrication of 4 GW Dipoles	BIALLAS G	35	0	02/02/2005	*
5	UV9.2102	Procure Generic Girder Material	BIALLAS G	0	100.00	10/01/2004	12/23/2004
6	UV9.2104	Procure Cartridges	BIALLAS G	0	100.00	03/01/2005	03/31/2005
7	UV9.2105	Engineering Oversight QX Girders/Stands Procurem...	BIALLAS G	60	15.00	10/01/2004	*
8	UV9.2110	Procurement/Fabrication of QX Girders/Stands	BIALLAS G	60	50.00	10/01/2004	*
9	UV9.2202	Procurement/Fabrication of QX/SC Girders/Stands	BIALLAS G	40	0	*	*
10	UV9.2205	Engineering Oversight to Fabricate QX & SC Girders/...	BIALLAS G	19	10.00	11/02/2004	*
11	UV9.2305	Engineering for QX Quad Procurement	BIALLAS G	0	100.00	02/01/2005	02/28/2005
12	UV9.2310	Procurement of QX Quad Procurement	BIALLAS G	0	100.00	02/01/2005	02/28/2005
13	UV9.3005	SC Sextupole Procurements, Mach Shop	BIALLAS G	100	5.00	12/01/2004	*
14	UV9.4000	Supplies & Equipment to Fabricate GA Trims	BIALLAS G	30	0	*	*
15	UV9.6100	Engineering Oversight for Vacuum Procurements	BIALLAS G	19	20.00	12/01/2004	*
16	UV9.6102	Procure Vacuum Tube, Misc	BIALLAS G	0	100.00	12/01/2004	02/28/2005

Important Business Rule Notes:
- A blank[empty] date field is **not valid**.
- You must default the field to * to set the date to 'undefined'[empty]

Save Changes